Software Forum

CIESE's Top Ten Software List

This list is based on an informal survey of teachers involved in a three year NSF funded Mentorship project at the CIESE Center at Stevens Institute of Technology in Hoboken, NJ. Here are the top ten software packages (in reverse order):

10. INTERPRETING GRAPHS *(APPLE II. DOS - SUNBURST)*

An intriguing little program that attracts teachers. The most popular part of this program (Relating Graphs to Events) offers three possible graph candidates for a given event and asks the student to pick the best one. For example, they choose the best graph for a candle burning over time. Though fairly trivial and limited, this piece of software spurred some curriculum integration work. One of my favorite extensions is the "Disappearing Mississippi River problem" (inspired by Harold Jacobs wonderful book "Mathematics: A Human Endeavor") which has students examine the flaws in Mark Twain's prediction that at some point in time the river will only be 3/4 of a mile long! (Details forthcoming in the next issue of CLIME Connections: "CIESE's Top Ten Lessons"). They have incorporated lesson plans that borrow from "Concepts in Algebra: A Technological Approach"(Janson Publications) that use real world problems and graphs. Some of our teachers are planning to add some of the creative lessons developed by EDC in Tom Snyder's recently released program Graph Action. Another program that looks very exciting that ties in with this idea is Measurement in Motion from Learning in Motion (see their website - http://www.learn.com) There you can graph a "real" candle burning brought to the screen through Quicktime movies!

9. GEOMETRY INVENTOR *(WINDOWS. MAC - LOGAL & SUNBURST)*

One of the now growing list of geometry conjecture software programs. It is mostly used by our middle school teachers because they find it a little easier to use than the Geometer's Sketchpad.

8. STATISTICS WORKSHOP *(MACINTOSH - SUNBURST)*

This is a set of computer tools for understanding and exploring fundamental concepts of data analysis. It includes four type of plots (histograms, bar charts, box plots, and scatter plots) which can be set up as subplots. What makes this program special is that you can manipulate (1) the regression line by dragging and observing a fit meter and (2) "stretchy" histograms which allow graphic manipulation of the shape of a distribution. The program is easy to learn and use.

7. MATH EXPLORATION TOOLKIT (MET)
(DOS - EDUQUEST)

An oldie, but goodie. This program is very powerful, extremely versatile and not an easy piece of software to learn. But once mastered, it is excellent for both demonstration and laboratory sessions. It allows you to do a lot of algebraic processing as well as the usual graphing. This is version one point oh. 2.0 never happened. Instead, Eduquest developed something called Toolkit for Interactive Mathematics (TIM) which had a very different design and feel. Though reviews were favorable, none of our MET-using teachers switched. One reason was that TIM was Windows based while MET was DOS and many of the teachers only had DOS. But I doubt the teachers would have switched even if they had Windows. The simplicity of MET (which also limits what's possible) outweighed the steep learning curve of TIM. Their reaction to comparable programs like F(G) Scholar and MacNumerics was luke warm at best. They tried them, but kept returning to the old reliable workhorse - MET. (Our focus in the project was on grades 7-10, so there was little interest in higher-end programs like Derive and Mathematica.)

6. MICROWORLDS MATH LINKS *(WINDOWS. MAC - LCSI)*

This is Logo Computer Systems Inc. latest Logo program. In addition to programming the turtle, one can program and create buttons for hypermedia links, make intelligent sliders that control visual effects, create music via an editor, etc. Math Links includes a set of activities like: polygons, repeating patterns, and transformations. Now there is a version 2.0 in the works. It will include access to QuickTime movies, photo banks, sound clips, etc.Our teachers like the program, but use it only minimally in their classrooms. No time for project development they say.

5. TABLETOP *(WINDOWS. MAC - TERC & BRODERBUND)*

A fascinating data analysis program that uses mobile icons as data points which can be arranged into Venn diagrams as well as box plots, histograms, etc. But no line graphs! It's a great visual show and wows most audiences. Great for turning teachers on to using computers. Some teachers are reluctant to try it in their classroom, because data analysis has not caught on yet in their buildings.